

Natural Resources Conservation Service

CONSERVATION Showcase

Cleaning Up A Watershed Through Conservation

by Jason Johnson, Public Affairs Specialist

Linda Ritchie and her siblings have always been conscious of the quality of their drinking water. Growing up on their Sac County Farm – Bethune Family Farms – they drank straight from the well. Today, Ritchie is applying conservation practices on the family's 740 acres to keep local water bodies, including nearby Black Hawk Lake, free from pollutants such as sediment, phosphorus and nitrates.

Ritchie's two siblings, Albert Bethune and Sarah Kay Osborne, reside in California, making Ritchie the point person for the family's farm ground for the past two decades. With nearly 14,000 feet of terraces already protecting their cropland against soil erosion, a new Federal conservation program provided an opportunity to do even more.



Rip rap stabilizes a stream throughout Ritchie's land in Sac County. She installed 1,230 feet with USDA-NRCS assistance.

NWQI

In 2012, USDA chose the Black Hawk Lake Watershed

as one of four Iowa watersheds for special financial and technical assistance to improve water quality and aquatic habitats through the National Water Quality Initiative (NWQI). Administered by the Natural Resources Conservation Service (NRCS), landowners implement conservation and management practices through NWQI in a systems approach to help control and trap pollutants, such as manure runoff, sediment, and unused nutrients.

"NRCS is proud to be involved in this effort with landowners and conservation partners to improve and protect our water resources," said Jay Mar, state conservationist for NRCS in Iowa. "These conservation practices will keep waterways clean, provide a cleaner water supply and healthy habitat for fish and wildlife."

The Black Hawk Lake Watershed, also referred to as Wall Lake Inlet, covers more than 13,000 acres in Sac and Carroll counties. The dominant feature of the watershed is Black Hawk Lake, which is listed on the Iowa 303(d) Impaired Waters List. "We are working to reduce sedimentation which carries phosphorus to the lake, causing algae blooms," said Denis Schulte, district conservationist for NRCS in Sac and Calhoun counties. "We can manage the algae blooms and restore the lake to what it once was with conservation structures, management practices, urban practices, and in-lake work."

The NWQI opportunity for Ritchie corresponded with a change in Bethune Family farm operations. Wayne Poen,



Linda Ritchie

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who farmed the family's land for more than 30 years, passed away, leaving Ritchie and her siblings to find a new tenant. It was only fitting they chose Wayne's son, Scott, who decided to return to Iowa to farm after living in Texas for several years. "Scott was very close with my father, Louie, growing up," said Ritchie. "We thought it was fitting to choose Scott as the next operator."

No-Till

As a new farmer, Poen says he wants to be on the cutting edge of ag technology. Whether it's using GPS precision farming tools, growing cover crops or improving soil health, he wants to reduce inputs, do as much as he can on his own, and be a good land steward.

"As a newer operator, I was excited to farm the same land my father did for so many years," he said. "I am no-tilling and strip-tilling to reduce inputs and apply my own fertilizer. It also feels good to keep the soil in place and reduce the amount of sediment and nutrients from leaving the farm, and to protect Black Hawk Lake from further pollution."

NRCS' Schulte says when farmers adopt farming practices like no-till and strip-till, it not only reduces the amount of soil leaving the farm, but it can also improve crop production and the overall net return for the farming operation. "No-till helps increase microbial activity, which helps build soil structure and improve overall soil health," he said. "No-till also helps sequester additional carbon in the soil and forms root channels that increase water infiltration."

Stream Bank Stabilization

Several tributaries of Carnarvon Creek also wind through Ritchie's land. Carnarvon Creek is a primary water source that flows into Black Hawk Lake. Years of water level fluctuations and heavy rains caused stream banks to sluff or erode, generating constant sediment flows to the



A CREP wetland, completed early in 2014, is helping to filter sediment from agricultural land.

lake. Through NWQI, Ritchie collaborated with NRCS to stabilize 1,230 feet of stream bank on her property. This involves reshaping the banks by reducing the slope, and stabilizing the banks with rip rap in sensitive areas of the stream.

Since 2012, NRCS has provided nearly \$1 million to landowners in the Black Hawk Lake Watershed to help fund the following practices that help improve water quality:

- » 1,367 acres of conversion to no-till and strip-till
- » 2,964 acres of nutrient management practices
- » 6 written nutrient management plans
- » 10,645 feet of stream bank stabilization
- » 5,850 feet of terraces
- » 4,675 feet of grassed waterways

CREP Wetland and Buffers

Not part of the NWQI project, but one of the most dramatic conservation projects on the Bethune farm is a newly completed 4-acre Conservation Reserve Enhancement Program (CREP) wetland, through assistance from USDA Farm Service Agency and the Iowa Department of Agriculture and Land Stewardship-Division of Soil Conservation.

The four-acre CREP wetland includes a large dam and

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water control structure. "The CREP site helps control the flow of water coming down the tributaries to Carnarvon Creek," said Schulte. "The wetland naturally removes nitrates and phosphorus in the water, and also becomes great wildlife habitat."

The CREP site also includes more than 24 acres of buffer strips along the streams. Ritchie donated 15 cropland acres and some pasture for the project.

Conservation Award

Through their conservation work together, Ritchie and Poen received the 2014 Black Hawk Lake Watershed Conservation Award, which honors landowners and producers for promoting and implementing

conservation practices that improve the health of the watershed.

"I certainly didn't do all of this conservation work to win an award," said Ritchie. "I feel really good, though, about the work that is being done on our farm to keep the watershed in better shape. I think a lot of farmers are doing good things in this area."

For more information about conservation practices and programs, or a conservation plan for your farm, contact your local USDA-NRCS office or visit www.ia.nrcs.usda.gov.



Poen plans to start planting cover crops, like cereal rye (pictured), planted on a farm near Linda Ritchie's.